

---

**CARDIAC STIMULATION DEVICE INCLUDING  
SLEEP APNEA PREVENTION AND TREATMENT**

---

5

**ABSTRACT**

An implantable cardiac stimulation device comprises a physiologic sensor and one or more pulse generators. The physiologic sensor is capable of sensing a physiologic parameter. The pulse generators can generate cardiac pacing pulses with a timing based on the physiologic parameter. The timed cardiac pacing pulses can prevent a sleep apnea condition. In one example, a cardiac stimulation device has a physiologic sensor and can be configured to pace a patient's heart according to a rest mode of operation. The cardiac stimulation device uses measurements from the physiologic sensor to prevent and treat sleep apnea using a revised rest mode of operation. The revised rest mode operates under a presumption that sleep apnea is primary to a reduced heart rate, rather than secondary, so that pacing at a rate higher than the natural cardiac rate during sleep will prevent sleep apnea.

2007-06-02 09:44:02